

NJDOT Bureau of Research  
QUARTERLY PROGRESS REPORT

Project Title:	Asset Management Implementation Strategy		
RFP NUMBER: 042505095	NJDOT RESEARCH PROJECT MANAGER: David Kuhn		
TASK ORDER NUMBER: 6994402/6991811	PRINCIPAL INVESTIGATOR: William Robert		
Project Starting Date: 1/12/2009 Original Project Ending Date: 12/31/2009 Modified Completion Date: 12/31/2009	Period Starting Date: 9/1/2008 Period Ending Date: 1/31/2009		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
1. Existing Practice Summary	11%	44%	44%	5%
2. Systems Review	17%	0%	0%	0%
3. Model Development	35%	0%	0%	0%
4. Workshop	21%	0%	0%	0%
5. Implementation Support	17%	0%	0%	0%
TOTAL	100%			5%

Project Objectives:

- Research best practices in asset management, present options for NJDOT to consider for an Asset Management Decision Support Model.
- Examine NJDOT management systems and the decision making/prioritization algorithms, as well as how the outputs of these are used.
- Based on the review of best practices and NJDOT systems, develop logical models/algorithms for investment category allocation; project prioritization; and implementation timing optimization.

Project Abstract:

1. Progress this quarter by task:

Activities this quarter focused on initiating the reviewing of existing asset management practice.

2. Proposed activities for next quarter by task

- Existing Practice Summary: complete this task, reporting to NJDOT on the state of existing practice
- Systems Review: conduct interviews of NJDOT staff, report on results of the interview to NJDOT
- Model Development: initiate work on this task.

3. List of deliverables provided in this quarter by task (product date)

As of 2/06/2004

- Existing Practice Summary: presentation on task results to the Asset Management Steering Committee (3/11/9)
- Systems Review: presentation on task results to the Asset Management Steering Committee (4/15/9)

#### 4. Progress on Implementation and Training Activities

N/A

#### 5. Problems/Proposed Solutions

N/A

Total Project Budget	\$150,337.54
<b>Modified Contract Amount:</b>	\$150,337.54
Total Project Expenditure to date	\$7,4097.92
% of Total Project Budget Expended	5%

NJDOT Bureau of Research  
QUARTERLY PROGRESS REPORT

Project Title:	<i>The Location of Highway Ramps and Schools to Address P.L. 2007, chapter 308 (Assembly Bill 856).</i>			
RFP NUMBER:	NJDOT RESEARCH PROJECT MANAGER: Camille Crichton-Summers			
TASK ORDER NUMBER:: A71083	PRINCIPAL INVESTIGATOR: Christopher Lamm			
Project Starting Date: <b>Original Project Ending Date: 2/27/2009</b> <b>Modified Completion Date: 5/31/2009</b>	Period Starting Date: 01/01/2009 Period Ending Date: 03/31/2009			

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
1. Research Plan	2	0	100	2
2. Literature Review.	13	0	100	13
3. Data Collection	10	10	90	9
4. Data Reduction and Analysis	25	60	80	20
5. Report Findings.	16	10	10	1.6
6. Meetings and Presentations	18	45	30	5.4
7. Implementation	16	5	5	0.8
TOTAL	100%			51.8

Project Objectives:

The objectives of this project are to:

1. Investigate state-of-the-practice strategies employed in the United States to improve pedestrian and bicyclist safety near schools and highway ramps.
2. Determine the extent to which highway ramps pose a threat to the safety of people who commute by bicycle or walking to school throughout New Jersey
3. Identify three representative “problem schools” in New Jersey and investigate the issues afflicting those schools in detail.
4. Develop mitigation strategies and a plan to implement them.

Project Abstract:

For the New Jersey Department of Transportation (DOT), Cambridge Systematics is researching the extent of problems posed by highway ramps to pedestrian safety near schools in New Jersey, and mitigation strategies that should be considered when addressing existing issues and potential future ramps. Accident data and interviews with school administrators will be used to identify specific problem areas in the State. This research will draw on best practices of other states and highlight, through case studies of specific interchanges, the specific means by which certain strategies may be implemented in New Jersey.

1. Progress this quarter by task:

As of 2/06/2004

- ♦ Task 1: Task complete, no new progress.
- ♦ Task 2: Task complete, no new progress.
- ♦ Task 3: After meeting with state project manager, CS revised the school survey form, which NJDOT will circulate to school officials.
- ♦ Task 4: Accident data has been procured from TSRC and incorporated into this project's geographic information system (GIS). Analysis of the accident data has revealed potential "problem schools" across the state. Accident data analysis is currently being refined to account for some additional factors.
- ♦ Task 5: Progress to date has been recorded in a document which will become the final report for this project.
- ♦ Task 6: CS met with NJDOT on 2/19/2009 to discuss progress and plan next steps for the project.
- ♦ Task 7: CS has developed a set of "problem school" selection criteria as a "straw man" which CS and NJDOT will use as a starting point for selecting the "problem schools."

## 2. Proposed activities for next quarter by task

Task 1: Task complete, no new progress anticipated.

Task 2: Task complete, no new progress anticipated.

Task 3: School survey responses will be returned and processed.

Task 4: Refinements to the accident data analysis/GIS will be completed. Additional information received from school surveys will be incorporated

Task 5: Additional findings will be recorded, and a Final Report document will be drafted this quarter.

Task 6: Additional project meetings will be conducted on an as-needed basis.

Task 7. "Problem schools" will be identified, visits to those schools made, strategies to improve safety will be recommended, and an implementation plan drafted.

## 3. List of deliverables provided in this quarter by task (product date)

Task 3: Revised school survey form (02/27/2009).

Task 4: DVD containing the geographic information system (GIS) for this project (02/20/2009).

## 4. Progress on Implementation and Training Activities

This quarter, CS has begun assembling a set of selection criteria by which CS will, in coordination with NJDOT, select three "problem schools" to investigate in detail in the Implementation task. Next quarter, CS and NJDOT will select the schools, CS will investigate the issues affecting them, and develop strategies and an implementation plan to alleviate the issues.

## 5. Problems/Proposed Solutions

No problems are reported currently. There were delays in procuring accident data, however those have been resolved.

Total Project Budget	\$64,498
<b>Modified Contract Amount:</b>	\$64,498
Total Project Expenditure to date	\$29,758*
% of Total Project Budget Expended	46%

\*Estimated through 03/15/2009

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QUARTERLY PROGRESS REPORT

Project Title:	<b>Transportation Research Consulting, GDL Marking</b>			
RFP NUMBER: <b>T-2505</b>	NJDOT RESEARCH PROJECT MANAGER: <b>Ed Kondrath</b>			
TASK ORDER NUMBER: <b>3</b>	PRINCIPAL INVESTIGATOR: Dan Krechmer			
Project Starting Date: <b>9/2008</b> Original Project Ending Date: <b>11/2008</b> Modified Completion Date: <b>N/A</b>	Period Starting Date: <b>9/2008</b> Period Ending Date: <b>11/2008</b>			

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Search				
1. Scan of International GDL Marking Effort	15	100	100	100
2. Identify Potential Material	35	100	100	100
3. Develop a testing regime for the material	25	100	\ 100	100
4. Conduct a focus group with state law enforcement agencies	15	100	100	100
5.Final Report	10	100	100	100
<b>TOTAL</b>	<b>100%</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Project Objectives:**

The objective of this project was to assist New Jersey Motor Vehicle Commission in determining the feasibility of a removable visual marker for Graduated Drivers License (GDL) drivers. The NJ Teen Driver Safety Study Commission issued a report to the Governor and Legislature in March of 2008 in response to concerns over the growing level of fatalities and teen driver injuries in New Jersey. One of the recommendations from the Commission's report identifies the need to mark vehicles operated by mostly teen Graduated Driver License (GDL) drivers to aid in enforcement of the GDL law.

**Project Abstract:**

Six technologies were identified to meet the requirement for a removable tag on the vehicle license plate. After review of documents and discussion with vendors' two technologies were field tested, a hook-and-loop, or Velcro, fastener, and a magnetic fastener. Both had two pieces, a base which attached to the license plate with adhesive and a top piece with a reflective sticker. Based on the field test and further review of product specifications, the hook-and-loop fastener is recommended as the preferred technology for this application. A retroreflective sticker was tested as well. Both the durability and the visibility of the stickers tested were not satisfactory. A draft specification was prepared to help address these deficiencies when the stickers are put out to bid. A focus group was held to discuss enforcement strategies and it was agreed that no identified was required on the sticker,

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only a solid color. It is proposed that the successful vendor conduct a field test of the attachment devices and the stickers, prior to full deployment, using approximately 500-1000 devices.

1. Progress this quarter by task:

All tasks were completed and final report with specification submitted to NJDOT. The tech brief and abstract were also submitted. After approval, all reports were finalized and submitted to NJDOT.

2. Proposed activities for next quarter by task

Presentation to be given at NJDOT Quarterly Research Meeting on March 17

3. List of deliverables provided in this quarter by task (product date)

- Final Report
- Tech Brief
- Abstract

All were submitted as final on December 4, 2008

4. Progress on Implementation and Training Activities

N/A

5. Problems/Proposed Solutions

None

Total Project Budget	<b>\$28,734.00</b>
<b>Modified Contract Amount:</b>	<b>\$28,734.00</b>
Total Project Expenditure to date	<b>\$27,794.94</b>
% of Total Project Budget Expended	<b>96.73%</b>

NJDOT Bureau of Research  
QUARTERLY PROGRESS REPORT

Project Title:	Transit Signal Priority; Systems Application and Technology Investigation		
RFP NUMBER: 0FHWA-NJ – 2005-019	NJDOT RESEARCH PROJECT MANAGER: Vincent Nichnadowicz		
TASK ORDER NUMBER:02	PRINCIPAL INVESTIGATOR: Pippa Woods		
Project Starting Date: <b>Original</b> Project Ending Date: <b>Modified Completion Date:</b>	Period Starting Date: 9/5/08 Period Ending Date: 12/31/08		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task 1 - survey of national TSP location analyses	25	0	100	25
Task 2 – Develop an intersection based TSP evaluation process and associated guidelines	30	0	100	30
Task 3 – Demonstrate the evaluation process through three case studies	25	0	100	25
Task 4 – Report on the status and findings of the research effort	10	0	100	10
Task 5 - Meetings and Presentations.	10	0	100	10
TOTAL	100%			100 %

Project Objectives:

The objective of this research is to develop an evaluation process that will assist NJ Transit in quickly determining which intersections are good candidates for TSP. This evaluation process is applicable for passive and active TSP and could be applied to a variety of roadways, including urban arterials, state routes, and county roads.

Project Abstract:

In New Jersey, priorities and capital investment strategies are focusing on improving bus service, including express and Bus Rapid Transit (BRT) in key corridors. One key technological component of these investment strategies is Transit Signal Priority (TSP). The New Jersey Department of Transportation, Bureau of Research, in partnership with New Jersey Transit (NJ Transit) engaged Cambridge Systematics, Inc., (CS) to develop an approach that quickly and cost-effectively determines where TSP is appropriate and could make the most impact on improving operations and, therefore, service.

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The research was conducted in five main tasks over a four-month period. Task 1 included a high-level survey of TSP implementations across North America to identify any intersection-level screening criteria either that were used during deployment or that could be recommended based on experience. Task 2 included the development and refinement of an intersection screening procedure based on experience elsewhere and applicable to New Jersey. Task 3 included the application of the screening procedure to three example corridors identified by NJ Transit. Task 4 included documentation of the research in this report. Task 5 included presentations to various stakeholders.

#### 1. Progress this quarter by task:

Task	Work Completed	Percent Complete
1 – survey of national TSP location analyses	<ul style="list-style-type: none"> <li>Contacted transit authorities who have deployed TSP. Organizations included: Portland – TriMet, Vancouver – Translink, Los Angeles – LACMTA, Chicago – RTA, CTA, Pace, Oakland – AC Transit, Toronto and NYC Transit.</li> </ul>	100%
2 – Develop an intersection based TSP evaluation process and associated guidelines	<ul style="list-style-type: none"> <li>Finalized draft scoring approach and submitted to stakeholders on 11/18.</li> </ul>	100%
3 – Demonstrate the evaluation process through three case studies	<ul style="list-style-type: none"> <li>Applied scoring methodology to three corridors</li> </ul>	100%
4 – Report on the status and findings of the research effort	<ul style="list-style-type: none"> <li>Developed draft and final report Delivered 12/08.</li> </ul>	100%
5 – Meetings and presentations	<ul style="list-style-type: none"> <li>Held kick-off meeting</li> <li>Completed survey work for Task 1 and 2. Met with client to discuss the findings 10/23 and 11/18.</li> <li>Held coordination conference calls bi-weekly</li> <li>Held final meeting with NJDOT 12/11.</li> </ul>	100%

#### 2. Proposed activities for next quarter by task

None

#### 3. List of deliverables provided in this quarter by task (product date)

Task 4 – Draft and Final Report delivered December 2008.  
TSP Methodology Spreadsheet delivered December 2008.

Task 5 – Various PowerPoint Presentations of Project.

#### 4. Progress on Implementation and Training Activities

NA

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## 5. Problems/Proposed Solutions

NA

Total Project Budget	\$80,180
<b>Modified Contract Amount:</b>	-
Total Project Expenditure to date	\$77,320
% of Total Project Budget Expended	96%